

Claims

- 1 1. A system for manufacturing a hard disk drive arm comprising:
 - 2 a U-shaped connector to couple a relay flexible cable to a voice coil carriage assembly,
 - 3 said U-shaped connector including a plurality of generally parallel plates, wherein
 - 4 said parallel plates include at least one bonding pad to electrically couple said relay
 - 5 flexible cable to a head gimbal assembly (HGA) flexure cable.
- 1 2. The system of claim 1, wherein said parallel plates include a plurality of opposing tabs.
- 1 3. The system of claim 2, wherein said voice coil carriage assembly has a plurality of grooves, said grooves being located on opposite sides of the voice coil carriage assembly.
- 1 4. The system of claim 3, wherein said grooves are shaped and located to accept said tabs.
- 1 5. The system of claim 1, wherein said U-shaped connector includes at least one alignment hole and said voice coil carriage assembly includes at least one alignment pin, said alignment hole shaped and located to accept said alignment pin.
- 1 6. The system of claim 1, wherein said bonding pad is to be coupled to at least one connecting pad on said HGA flexure cable by a conductive bonding agent.
- 1 7. The system of claim 6, wherein said bonding agent includes a plurality of electrically conductive particles.

1 8. The system of claim 7, wherein said bonding agent is to be compressed between said
2 bonding pad and said connector pad, a number of said particles to form an electrical path
3 between said bonding pad and said connector pad.

1 9. The system of claim 8, wherein said bonding agent is Anisotropic Conductive Film
2 (ACF).

1 10. The system of claim 1, wherein said voice coil carriage assembly is molded polymer
2 resin.

1 11. The system of claim 1, wherein said voice coil carriage assembly is stamped aluminum.

1 12. The system of claim 1, wherein said U-shaped connector has four bonding pads and said
2 HGA flexure cable has four connecting pads.

1 13. The system of claim 12, wherein said bonding pads and said connecting pads are gold
2 coated.

1 14. A method for manufacturing a hard disk drive arm comprising:
2 coupling, by a U-shaped connector, a relay flexible cable to a voice coil carriage
3 assembly, said U-shaped connector including a plurality of generally parallel plates and said
4 parallel plates including at least one bonding pad to electrically couple said relay flexible cable
5 to a head gimbal assembly (HGA) flexure cable.

- 1 15. The method of claim 14, wherein said parallel plates include a plurality of opposing tabs.
- 1 16. The method of claim 15, wherein said voice coil carriage assembly has a plurality of grooves, said grooves being located on opposite sides of the voice coil carriage assembly.
- 1 17. The method of claim 16, wherein said grooves are shaped and located to accept said tabs.
- 1 18. The method of claim 14, wherein said U-shaped connector includes at least one alignment hole and said voice coil carriage assembly includes at least one alignment pin, said alignment hole shaped and located to accept said alignment pin.
- 1 19. The method of claim 14, wherein said bonding pad is to be coupled to at least one connecting pad on said HGA flexure cable by a conductive bonding agent.
- 1 20. The method of claim 19, wherein said bonding agent includes a plurality of electrically conductive particles.
- 1 21. The method of claim 20, wherein said bonding agent is to be compressed between said bonding pad and said connector pad, a number of said particles to form an electrical path between said bonding pad and said connector pad.
- 1 22. The method of claim 21, wherein said bonding agent is Anisotropic Conductive Film (ACF).

1 23. The method of claim 14, wherein said voice coil carriage assembly is molded polymer
2 resin.

1 24. The method of claim 14, wherein said voice coil carriage assembly is stamped aluminum.

1 25. The method of claim 14, wherein said U-shaped connector has four bonding pads and
2 said HGA flexure cable has four connecting pads.

1 26. The method of claim 25, wherein said bonding pads and said connecting pads are gold
2 coated.

1 27. A system for manufacturing a hard disk drive arm comprising:
2 a U-shaped connector to couple a relay flexible cable to a voice coil carriage assembly,
3 said U-shaped connector including a plurality of generally parallel plates, said parallel plates
4 including a plurality of opposing tabs, wherein
5 said voice coil carriage assembly has a plurality of grooves shaped and located to accept
6 said tabs; and
7 said parallel plates include at least one bonding pad to electrically couple said relay
8 flexible cable to a head gimbal assembly (HGA) flexure cable.

1 28. The system of claim 27, wherein said U-shaped connector includes at least one alignment
2 hole and said voice coil carriage assembly includes at least one alignment pin, said alignment
3 hole shaped and located to accept said alignment pin.

1 29. The system of claim 27, wherein said bonding pad is to be coupled to at least one
2 connecting pad on said HGA flexure cable by a conductive bonding agent.

1 30. The system of claim 29, wherein said bonding agent is Anisotropic Conductive Film
2 (ACF).